



## Nonlinear optical effects in new alkynyl-ruthenium containing nanocomposites

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Type	Article scientifique dans une revue à comité de lecture
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Résumé en anglais	<p>A theoretical and experimental study of third-order nonlinear optical properties of alkynyl-ruthenium complexes bearing terminal hydrogen-bonding receptors are presented. These materials could be promising materials for the molecular engineering for applications in organometallic chemistry and nonlinear optics. We have obtained the third-order nonlinear optical susceptibility <math>\chi^{(3)}</math> for each studied complex. A good agreement between the proposed theoretical model and the experimental results was found. The investigated complexes show large optical nonlinearities in comparison with CS<sub>2</sub>, which is the reference material for DFWM measurements. The data obtained through the theoretical study provide valuable insight into the origin of the hyperpolarizability and help to synthesize molecules with optimal properties, which are important for nonlinear optics and molecular engineering.</p>
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